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THIS ISSUE

Review Criteria for Knee Surgery

TO:

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Purpose and Development of the Guideline

The purpose of this medical treatment guideline is to provide the criteria that will be used by the department's Utilization Review vendor to review knee surgery requests.

This medical treatment guideline was developed by the Washington State Department of Labor and Industries in collaboration with the Washington State Medical Association (WSMA) Industrial Insurance Advisory Section of the Interspeciality Council. The guideline is based on a literature review of the current scientific information regarding surgical procedures on the knee, and on expert opinion from actively practicing physicians who regularly treat knee conditions.

This Provider Bulletin becomes effective January 1, 2004.

Literature review on Knee Surgeries

The current medical literature was reviewed, with an emphasis on randomized, double blind control trials, for the knee procedures contained in this medical treatment guideline. Pertinent information from the current medical literature was used to validate requirements in the surgical review criteria. Obesity and total joint arthroplasty were the focus of multiple articles. Medical literature indicates that patients with a Body Mass Index (BMI) greater than 35 are more likely to have a pre-existing history of cardiac disease or diabetes; are more likely to have post operative complications including infections, wound dehiscence, deep vein thrombosis, pulmonary embolism, cardiac arrhythmias, myocardial infarction, ileus, prolonged hospitalization; and were more likely to be discharged to a rehabilitation facility.

Knee surgeries that will require Utilization Review

The department's Utilization Review (UR) vendor, using the review criteria in this Provider Bulletin, will review requests for surgical procedures on the knee for state fund claims. The current UR vendor is Qualis Health, phone number 1-800-541-2894, and fax number 1-877-665-0383.

Utilization Review will be required for inpatient or outpatient surgical procedures involving the knee joint or surrounding structures to include requests related to:

- Arthroscopy
- Neurectomy
- Secondary treatment of fracture nonunion
- Chronic dislocation/subluxation
- Elective amputation
- Total joint or unicompartmental arthroplasty
- Repair, revision, or reconstruction
 - Osteotomy

Excision

- Arthrodesis
- Autologous chondrocyte implantation
- Meniscal transplantation
- Inpatient treatment of acute fractures, dislocations, laceration, or compartment syndrome

Knee surgeries that will not require Utilization Review

Utilization Review will not be required for outpatient emergent treatment of an acute fracture, dislocation, laceration, or compartment syndrome.

Review Criteria for Knee Surgery

PROCEDURE	CONSERVATIVE Clinical Findings			
	CARE	SUBJECTIVE	OBJECTIVE	IMAGING
ANTERIOR CRUCIATE LIGAMENT (ACL) REPAIR	AN	ID AN	ID Al	ND
KEI AIK	(Not required for acute injury with hemarthrosis) Physical therapy OR Brace	Pain alone is not an indication for surgery Instability of the knee, described as "buckling or give way" OR Significant effusion at the time of injury OR Description of injury indicates rotary twisting or hyperextension incident	Positive Lachman's sign OR Positive pivot shift OR Positive anterior drawer OR Positive KT 1000 >3-5 mm = +1 >5-7 mm = +2 >7 mm = +3	(Not required if acute effusion, hemarthrosis, and instability; or documented history of effusion, hemarthrosis, and instability) ACL disruption on: MRI OR Arthroscopy OR Arthrogram
LATERAL RETINACULAR RELEASE OR PATELLAR TENDON REALIGNMENT OR MAQUET PROCEDURE	Physical therapy (not required for acute patellar dislocation with associated intra-articular fracture) OR Medications	Knee pain with sitting OR Pain with patellar/femoral movement OR Recurrent dislocations	Lateral tracking of the patella OR Recurrent effusion OR Patellar apprehension OR Synovitis with or without crepitus OR Increased Q angle > 15 degrees	Abnormal patellar tilt on: X-ray, CT, or MRI
KNEE JOINT REPLACEMENT	Al	ND AN	ND A	ND
If only 1 compartment is affected, a unicompartmental or partial replacement is indicated. If 2 of the 3 compartments are affected, a total joint replacement is indicated.	Medications OR Visco supplementation injections OR Steroid injection	Limited range of motion OR Night time joint pain OR No pain relief with conservative care	Over 50 years of age AND Body Mass Index of less than 35	Osteoarthritis on: Standing x-ray OR Arthroscopy

PROCEDURE	CONSERVATIVE	ERVATIVE Clinical Findings		
	CARE	SUBJECTIVE	OBJECTIVE	IMAGING
DIAGNOSTIC ARTHROSCOPY	AND AND Medications Pain and functional		Imaging is inconclusive	
	OR Physical therapy	limitations continue despite conservative care		imaging is inconclusive
MENISCECTOMY OR	AN	ND AN	ND AN	ND
MENISCUS REPAIR	(Not required for locked/blocked knee) Physical therapy OR Medication OR Activity modification	Joint pain OR Swelling OR Feeling of give way OR Locking, clicking, or popping	Positive Mc Murray's sign OR Joint line tenderness OR Effusion OR Limited range of motion OR Locking, clicking, or popping OR Crepitus	(Not required for locked/blocked knee) Meniscal tear on MRI
CHONDROPLASTY (Shaving or debridement of an articular surface)	AN Medication OR Physical therapy	Joint pain AND Swelling	Effusion OR Crepitus OR Limited ROM	
SUBCHONDRAL DRILLING OR MICROFRACTURE	Medication OR Physical therapy	Joint pain AND Swelling	Small full thickness chondral defect on the weight bearing portion of the medial or lateral femoral condyle AND Knee is stable with intact, fully functional menisci and ligaments AND Normal knee alignment AND Normal joint space AND Ideal age 45 or younger	Chondral defect on the weight bearing portion of the medial or lateral femoral condyle on: MRI OR Arthroscopy

PROCEDURE	CONSERVATIVE	Clinical Findings		
	CARE	SUBJECTIVE	OBJECTIVE	IMAGING
OSTEOCHONDRAL AUTOGRAFT (MOSAICPLASTY OR OATS PROCEDURE)			Failure of previous subchondral drilling or microfracture Large full thickness chondral defect that measures less than 3 cm in diameter and 1 cm in bone depth on the weight bearing portion of the medial or lateral femoral condyle	_
			AND Knee is stable with intact, fully functional menisci and ligaments AND Normal knee alignment AND Normal joint space AND Body mass index of less than 35	

Body Mass Index

The equation for calculating the Body Mass Index (BMI) = (Weight in pounds \div Height in inches \div Height in inches) x 703. For example, a person weighing 210 pounds and 6 feet tall would have a BMI of (210 pounds ÷ 72 inches ÷ 72 inches) x 703 = 28.5.

PROCEDURE	CONSERVATIVE	Clinical Findings		
	CARE	SUBJECTIVE	OBJECTIVE	IMAGING
AUTOLOGOUS CHONDROCYTE IMPLANTATION (ACI)			Failure of traditional surgical interventions (i.e., microfracture, drilling, abrasion, osteochondral graft). Debridement alone does not constitute a traditional surgical intervention for ACI AND Single, clinically significant, lesion that measures between 1 to 10 sq.cm in area that affects a	
			weight-bearing surface of the medial femoral condyle or the lateral femoral condyle. AND Full-thickness lesion (Modified Outerbridge Grade III-IV) that involves	
			only cartilage. AND Knee is stable with intact, fully functional menisci and ligaments. AND Normal knee alignment AND	
			Normal joint space. AND IW is less than 60 years old AND Body Mass Index of less than 35.	

ACI Exclusion Criteria

ACI is not a covered procedure in any of the following circumstances:

- Lesion that involves any portion of the patellofemoral articular cartilage, bone, or is due to osteochondritis dissecans.
- A "kissing lesion" or Modified Outerbridge Grade II, III, or IV exists on the **opposite** tibial surface.
- Mild to severe localized or diffuse arthritic condition that appears on standing x-ray as joint space narrowing, osteophytes, or changes in the underlying bone.
- Unhealthy cartilage border; the synovial membrane in the joint may be used as a substitute border for up to ¼ of the total circumference.
- Prior total meniscectomy of either compartment in the affected knee. Must have at least 1/3 of the posterior meniscal rim.
- History of anaphylaxis to gentamycin or sensitivity to materials of bovine origin.
- Chondrocalcinosis is diagnosed during the cell culture process.

Please refer to Provider Bulletin 03-02 for additional coverage information. Surgeon should have performed or assisted in 5 or more ACI procedures; or will be performing the ACI under the direct supervision and control of a surgeon who has experience with 5 ACI procedures.

Modified Outerbridge Classification

MIO	Widdlied Outer Dridge Classification			
Ι	Articular cartilage softening			
II	Chondral fissures or fibrillation < 1.25 cm in diameter			
III	Chondral fibrillation > 1.25 cm in diameter,			
	("crabmeat changes")			
IV	Exposed subchondral bone			

Inclusion Criteria

PROCEDURE	CONSERVATIVE	Clinical Findings		
	CARE	SUBJECTIVE	OBJECTIVE	IMAGING
MENISCAL ALLOGRAFT TRANSPLANTATION			OBJECTIVE	
			transplanted meniscus. AND Stable knee with intact ligaments, normal alignment, and normal joint space. AND Ideal age 20-45 years (too young for total knee) AND Body Mass Index of less than 35	

Meniscal Allograft Transplantation Exclusion Criteria

Meniscal Allograft Transplantation is not a covered procedure in any of the following circumstances:

- Mild to severe localized or diffuse arthritic condition that appears on standing x-ray as joint space narrowing, osteophytes, or changes in the underlying bone.
- Articular cartilage in the affected compartment demonstrates a chondrosis classified by the Modified Outerbridge Scale as Grade III that has not undergone debridement; Grade III with debridement that has not produced an articular surface that can maintain the integrity of the transplanted meniscus; or Grade IV.

Please refer to Provider Bulletin 03-02 for additional coverage information. Surgeon should have performed or assisted in 5 or more meniscal allograft transplantation procedures; or will be performing the meniscal allograft transplantation under the direct supervision and control of a surgeon who has experience with 5 procedures.

Modified Outerbridge Classification

Ι	Articular cartilage softening
II	Chondral fissures or fibrillation < 1.25 cm in diameter
III	Chondral fibrillation > 1.25 cm in diameter, ("crabmeat changes")
IV	Exposed subchondral bone

Body Mass Index

The equation for calculating the Body Mass Index (BMI) = (Weight in pounds \div Height in inches \div Height in inches) x 703. For example, a person weighing 210 pounds and 6 feet tall would have a BMI of (210 pounds \div 72 inches \div 72 inches) x 703 = 28.5

References

- 1. Miric A, Lim M, Kahn B, Rozenthal T, Bombick D, Sculco T. Perioperative morbidity following total knee arthroplasty among obese patients. J Knee Surgery. 2002 Spring:15(2):77-83.
- 2. Winiarsky R, Barth P, Lotke P. Total knee arthroplasty in morbidly obese patients. J Bone Joint Surgery Am. 1998 Dec;80(12):1770-74.
- 3. Gross A. Cartilage resurfacing: filling defects. J Arthroplasty. 2003 Apr;18(3 Suppl 1):14-17.
- 4. Steadman J, Briggs K, Rodrigo J, Kocher M, Gill T, Rodkey W. Outcomes of microfracture for traumatic chondral defects of the knee: average 11-year follow-up. Arthroscopy. 2003 May-Jun;19(5):477-484.
- 5. Bentley G, Biant L, Carrington R, Akmal M, Goldberg A, Williams A, Skinner J, Pringle J. A prospective, randomized comparison of autologous chondrocyte implantation versus mosaicplasty for osteochondral defects in the knee. J Bone Joint Surgery Br. 2003 Mar;85(2):223-30.
- 6. Biedert R. Treatment of intrasubstance meniscal lesions: a randomized prospective study of four different methods. Knee Surg Sports Traumatol Arthrosc. 2000;8(2):104-8.
- 7. Barrett G, Rook R, Nash C, Coggin M. The effect of workers' compensation on clinical outcomes of arthroscopic-assisted autogenous patellar tendon anterior cruciate ligament reconstruction in an acute population. Arthroscopy. 2001 Feb;17(2):132-37.
- 8. Vincken P, ter Braak B, van Erkell A, de Rooy T, Mallens W, Post W, Bloem J. Effectiveness of MR imaging in selection of patients for arthroscopy of the knee. Radiology. 2002 Jun;223(3):739-46.